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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PUBLIC ROADS  
DIVISION OF AGRICULTURAL ENGINEERING

S. H. McCrory, Chief

MONTHLY NEWS LETTER

Washington, D. C., December 21, 1925.

With this issue we approach the Holiday Season and the close of another calendar year. It is the season of stock-taking, of work accomplished as well as of material equipment. We are at the half-way point of the fiscal year and approximately half of our appropriation has been expended. Is it not an appropriate time for each one to reflect upon his contribution to the year's accomplishments of the Division? For myself, I take the opportunity to express to each one - in as personal a manner as can be done on this rather impersonal sheet - my appreciation of the loyalty and of the conscientious efforts that have characterized your work, and to transmit the Season's Greetings of the Washington office force to their co-workers in the field.

S. H. McCrory.

DRAINAGE.

To conform with the practice and records of the Geological Survey, it has been decided to adopt the water year (October 1 to September 30) in our run-off work instead of the calendar year as has been the policy heretofore. Progress reports will be prepared on that basis.

C. E. Ramser examined the Behner Farm near Westerfield, Ill., where it is proposed to lay out a tile lateral system and conduct ground-water investigations. Most of the month was occupied with routine work in connection with his run-off studies.

P. T. Simons reports a maximum discharge on the ditches between McGehee and Arkansas City, as a result of the heavy rains of early November of 8869 second-feet from a watershed area of 563 square miles.

In addition to carrying on the experimental erosion project, F. O. Bartel made a survey and plans for the drainage of some of the Agricultural College property at Raleigh, N. C.

D. G. Miller and P. C. McGrew have about completed a report of three years investigation of concrete tile laid in peat soil in Wisconsin.

R. D. Marsden is continuing the compilation of data relative to the maintenance of open ditches and large drain tile. In 6 districts of Minnesota having 69 miles of open drains, the average expenditure for maintenance was \$30.60 per mile per year, while in 16 districts having 128 miles of tile, the average expenditure was \$14.90 per mile per year.



THE HISTORY OF THE  
CITY OF BOSTON  
FROM THE FIRST SETTLEMENT  
TO THE PRESENT TIME

BY  
JOSEPH NEALE

IN TWO VOLUMES.  
VOL. I.

BOSTON: PUBLISHED BY  
JOSEPH NEALE, 1827.

The first settlement of the city of Boston was made by a small party of Englishmen, who, in the year 1630, sailed from England, and landed on the island of Nodd, now called North End. They were accompanied by a large number of Indian natives, who had been converted to Christianity, and who were to remain with them, and to teach them the ways of the Lord. The first year of their settlement was a year of trial and tribulation, for they were exposed to the attacks of the Indians, and to the hardships of a new and unknown country. But they were sustained by the faith of their Heavenly Father, and by the love of their fellow-men, and they were enabled to overcome all their difficulties, and to establish a firm and lasting settlement.

THE HISTORY OF THE  
CITY OF BOSTON

CONTAINS  
A DESCRIPTION OF THE  
CITY, AND OF THE  
COUNTRY AROUND IT.

The city of Boston is situated on a peninsula, which is bounded by the harbor on the south, and by the city of Cambridge on the north. It is a city of great beauty and interest, and is one of the most important cities in the United States. It is a city of great commerce, and is one of the most important ports in the world. It is a city of great learning, and is one of the most important centers of education in the United States.

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Had the open ditches been maintained at the same degree of efficiency as the tile the difference would have been still greater. In Iowa, 4 districts having 34 miles of open ditches, showed an average expenditure of from \$127 to \$270 per mile per year compared with \$6.80 to \$20.50 for 372 miles of tile drains.

#### IRRIGATION

The project statement on "Utilization of early and late season waters in crop production" has been sent to the Washington office. The Berkeley office has received an outline for Purnell Project No. 7, New Mexico on "Rainfall supplemented by underground waters in the production of crops of low water requirements."

W. W. McLaughlin returned to Berkeley early in the month from a trip to the Southwest, stopping at the experiment station at Tucson, Ariz. and at the Los Angeles office to confer with Messrs. Blaney and Taylor.

L. M. Winsor spent a part of the month in Utah checking over results of the past season's work and gathering additional data for the bulletins he has under way. He also spent a short time at Logan conferring with Director Peterson of the experiment station on the cooperative work in Utah.

P. A. Ewing and R. P. Teele have finished reports on Twin Falls Canal Company, Idaho, and Henrylyn Irrigation District, Colorado in the series of reports based on a study of the economic limits of the cost of water for irrigation carried on in cooperation with the Bureau of Agricultural Economics.

Frank Davis and Lloyd Brown who are working under the direction of O. V. P. Stout, have returned to their headquarters at Berkeley and Davis, respectively, to write up the season's results of duty of water studies in the Sacramento - San Joaquin delta.

J. C. Marr completed the topographic survey and map of 35 acres of alkali land lying adjacent to the alkali experimental tract on the Helms ranch near Caldwell, Idaho. It is proposed to lease 50 acres for a period of 5 years with privilege of extending the time to 10 years, and to include, in addition to the chemical treatments now being employed, leaching with various quantities of water manure and straw coverings, the production of various alkali resistant crops, and combinations of methods for reclaiming alkali land. Tentative arrangements were made with the Boise River water master and the commissioners of Drainage District No. 2 of Ada County for cooperative drainage studies next year on some 60 miles of drains on the north side of the Boise River.

R. L. Parshall and Carl Rohwer report that the results of tests so far conducted with the double-hump hydraulic-jump flume show no reduction in the loss of head by the use of such a device. In connection with soil-moisture evaporation studies they have developed apparatus for holding the level of the water constant to within 1/100 inch. Mr.







Parshall attended a meeting at San Francisco of the Special Committee on Irrigation Hydraulics, A. S. C. E., and visited the Berkeley office.

R. A. Hart and T. C. Adams visited the Sevier Valley of Utah to make cultivation surveys of drained units and to obtain samples of drainage water, as well as to inspect drainage systems there and elsewhere in Utah.

Under the direction of R. G. Hemphill, Messrs. Faris and Magnuson made a survey of silt deposits in Lake Kemp of the Wichita Falls Project in Texas. Mr. Hemphill reports a fair flow at most of the silt-sampling stations on the Brazos, the total of approximately 600 samples received showing a dropping off of silt content until at the end of the month water from all but one station was practically clear.

Wells A. Hutchins concluded the field study of mutual irrigation companies and returned to Berkeley after visiting the Arkansas Valley and Denver, Colorado.

A. L. Fellows made a trip through parts of Kansas, Oklahoma, New Mexico and Texas, studying the irrigation needs and possibilities of portions of the Great Plains region in those States.

L. T. Jessup visited Sunnyside, Washington and Hermiston, Oregon for the purpose of securing drainage discharge records.

H. F. Blaney and C. A. Taylor made a survey of present irrigated land in the northern part of San Diego County, California and platted the results. The tentative title selected for the investigation is "Economic water requirements of San Diego County lands under which irrigation districts may be organized." They also visited Whittier to obtain data on a steel pipe line of the Whittier Water Company for the use of F. C. Scobey. Mr. Blaney reports that results of determinations of Colorado River silt deposits show the deposits weighed from 73.2 to 90.7 pounds per cubic foot with an average of 81.6 pounds per cubic foot.

#### SURPLUS WAR EXPLOSIVES.

There is the usual seasonal reduction in orders for explosives. This is especially true at the Barksdale, Wisconsin plant where operations are practically at a standstill. Continued demands on the Gibbstown, N. J. plant indicate a very gratifying increase of interest in pyrotol in the Southeastern States. Shipments during November totaled 1,292,350 pounds.

#### BUILDINGS AND MECHANICS.

Mr. M. C. Betts recently attended a meeting of the eastern section of the American Society of Agricultural Engineers. He is now in Maine making a further study of potato storage houses.





A large number of questionnaires (about 70,000) have been sent out from the Washington office, calling for information relative to the use of farm wagons and motor trucks. This study is being conducted by C. D. Kinsman.

A series of tables and charts showing the proportion of the total operating costs represented by labor and power in the production of the principal field crops has recently been prepared by C. D. Kinsman. The results show that labor and power costs amount, on the average, to 60 per cent of the cost of raising all crops.

There has been a heavy demand on the Washington office for plans of fox houses and poultry houses, the call for the latter being due to an advertisement appearing in the Farm Journal.

S. J. Dennis attended the first meeting of the committee that is to study the waterproofing of refrigerator car floors. This committee consists of representatives from the various railroads and car lines operating refrigerator cars, the Interstate Commerce Commission and the Department. On December 9, Mr. Dennis attended the meeting of American Society of Refrigerating Engineers in New York City.

A film entitled "Turn on the Water" illustrating methods of farm water supply - old and new - with many valuable lessons of practical value to farm people is nearly completed and is ready for preliminary review.

#### PUBLICATIONS AND REPORTS.

The following reports have been received by the Berkeley office:

Alkali Land Reclamation Experiments, Caldwell, Idaho by J.C. Marr.  
Drainage Discharge from Irrigated Lands. (A preliminary report)

By T. C. Adams.

Notes on the Irrigation of Citrus Fruits in the Lower Rio Grande Valley of Texas, by R. G. Hemphill.

The paper by Samuel Fortier and F. C. Scobey on "Permissible Canal Velocities" published in the September proceedings of the A. S. C. E. has been discussed in the December proceedings by several writers, among them R. A. Hart. A discussion of the same paper by Carl Rohwer has been received in manuscript form at the Berkeley office.

An office report entitled "Progress Report of Three Years Experiments on the Irrigation of Sugar Cane Land in Southern Louisiana," by F. E. Staebner, has been completed.

Information Series No. 10 on "Clearing Land," has been revised and a new one No. 60, "Magnesia Cement Floors and Stucco," has been issued.



A large number of investigations (about 100) have been conducted since the war, showing that the use of force against the people is not only unnecessary but also harmful. This is especially true in the case of the people of the United States.

A review of the history of the people of the United States shows that the people have always been the source of power. The people have always been the source of power, and the people have always been the source of power. The people have always been the source of power, and the people have always been the source of power.

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### TECHNICAL AND ECONOMIC

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